

REISSUE LITIGATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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AMPLIFICATION FOR AFFINITY)
ASSAYS)

PROTEST UNDER 37 C.F.R. § 1.291(a)

EXHIBIT A

Curriculum Vitae of Michael M. Harpold, Ph.D.

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Curriculum Vitae
MICHAEL M. HARPOLD, Ph.D.

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Education:

Postdoctoral, Helen Hay Whitney Fellow, (1976-1979), Molecular Cell Biology Laboratory, The Rockefeller University, New York, NY
Ph.D., 1976, Developmental and Molecular Cell Biology, Tulane University, New Orleans, LA
B.Sc., 1971, Biology, TCU, Fort Worth, TX

Professional Experience:

Principal, EnkephaSys, Santa Fe, NM/Tucson, AZ (1999-present)
Chief Scientific Officer and Director, National Center for Genome Resources, Santa Fe, NM (1998-1999)
Vice President, Research, SIBIA Neurosciences (formerly known as The Salk Institute Biotechnology/Industrial Associates, Inc.), La Jolla, CA (1990-1998)
Vice President, Scientific Planning, The Salk Institute Biotechnology/Industrial Associates, Inc., La Jolla, CA (1986-1990)
Director of Scientific Planning and Molecular Biology, The Salk Institute Biotechnology/Industrial Associates, Inc., La Jolla, CA (1982-86)
Senior Staff Scientist, The Salk Institute Biotechnology/Industrial Associates, Inc., La Jolla, CA (1981-82)
Senior Scientist, La Jolla Biological Laboratories, The Salk Institute, La Jolla, CA (1981-1983)
Member, Norris/USC Comprehensive Cancer Center, Los Angeles, CA (1979-1981)
Assistant Professor, Department of Biochemistry, University of Southern California School of Medicine, Los Angeles, CA (1979-1981)

Awards/Honors:

NIH Graduate Fellowship, The Marine Biological Laboratory, Embryology Course, Woods Hole, MA (1974)
Helen Hay Whitney Fellowship, The Rockefeller University (1976-1979)

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University Teaching:

TCU, 1971

Teaching Assistant, General Biology Laboratory

Tulane University, 1972-1974

Teaching Assistant, Genetics

Teaching Assistant, Developmental Biology Laboratory

Lecturer, Chemical Embryology

University of Southern California School of Medicine, 1979-1981

Proctor, Medical Biochemistry, Year I Discussion Group

Lecturer, Genetic Engineering-Medical Biochemistry

Lecturer, Graduate General Biochemistry

Course organizer, Lecturer, Molecular Mechanisms of Gene Expression and Cellular Differentiation

Research Support:

Helen Hay Whitney Foundation, Postdoctoral Fellowship, 1976-1979

American Cancer Society, Institutional Research Grant, 1980-1981

National Institute of Child Health and Human Development, NIH, RO-1 Research Grant, 1980-1983

Research support for multiple research projects from various corporations, including Phillips Petroleum, Diamond Shamrock, Hoffmann La Roche, Eli Lilly, and Novartis/Ciba-Geigy, 1982-1998

Scientific Review:

Grants: NIH Biomedical Sciences Study Section, 1982-1983

Journals: Proceedings National Academy of Sciences, USA, J.

Neurochemistry, J. Biological Chemistry, Analytical Biochemistry,

Neuropharmacology, J. Pharmacology and Experimental Therapeutics, J.

Molecular Neuroscience, Cell, Genomics, Nucleic Acids Research

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Publications:

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M. Hans, S. Luvisetto, M.E. Williams, M. Spagnolo, A. Urrutia, A. Tottene, P.F. Brust, E.C. Johnson, M.M. Harpold, K. Stauderman, and D. Pietrobon. (1999) Functional consequences of mutations in the human α_1A calcium channel subunit linked to Familial Hemiplegic Migraine. *J Neurosci.* 19, 1610-1619.

M. Hans, A. Urrutia, C. Deal, P.F. Brust, K. Stauderman, S.B. Ellis, M.M. Harpold, E.C. Johnson, and M.E. Williams. (1999) Structural elements in domain IV that influence biophysical and pharmacological properties of human α_1A -containing high-voltage-activated calcium channels. *Biophys. J.* 76, 1384-1400.

R.A. Cardoso, S.J. Brozowski, L.E. Chavez-Noriega, M. Harpold, C.F. Valenzuela, and R.A. Harris. (1999) Effects of ethanol on recombinant human neuronal nicotinic acetylcholine receptors expressed in *Xenopus* oocytes. *J Pharmacol. Exp. Ther.* 289, 774-780.

B.W.S. Sobral and M.M. Harpold. (1999) Bioinformatics and neuroscience in the post-genomic era. In: W.E. Crusio and R.T. Gerlai, eds. *Handbook of Molecular-Genetic Techniques for Brain and Behavior Research*. Elsevier Science, N.Y.

E.A. Ertel, K.P. Campbell, M.M. Harpold, F. Hofmann, Y. Mori, E. Perez-Reyes, A. Schwartz, T.P. Snutch, T. Tanabe, L. Birnbaumer, R.W. Tsien, and W.A. Catterall. (2000) Nomenclature of Voltage-Gated Calcium Channels. *Neuron* 25, 533-535.

Patents:

(Issued US Patents only; not listed: Filed, unissued US Patents; filed, unissued, or issued foreign patents.)

S.B. Ellis and M.M. Harpold. (1988) Nucleic acid probes for prenatal sexing. *US Patent* 4769319.

D.W. Stroman, P.F. Brust, S.B. Ellis, T.R. Gingeras, J.F. Tschopp, and M.M. Harpold. (1989) Methanol inducible genes obtained from *Pichia* and methods of use. *US Patent* 4808537.

D.W. Stroman, P.F. Brust, S.B. Ellis, T.R. Gingeras, J.F. Tschopp, and M.M. Harpold. (1989) Regulatory region for heterologous gene expression in yeast. *US Patent* 4855231.

D.W. Stroman, G.T. Sperl, J.M. Cregg, and M.M. Harpold (1989) Transformation of yeasts of the genus *Pichia*. *US Patent* 4879231.

J.F. Tschopp, M.M. Harpold, J.M. Cregg, and R.G. Buckholz. (1990) Yeast production of hepatitis B surface antigen. *US Patent* 4895800.

S.B. Ellis and M.M. Harpold. (1990) Nucleic acid probes for prenatal sexing. *US Patent* 4960690.

M.M. Harpold and S.B. Ellis. (1994) Acetylcholine receptor compositions and cells transformed with same. *US Patent* 53699028.

S.D. Jay, S.B. Ellis, M.M. Harpold, and K.P. Campbell. (1995) Calcium channel compositions and methods. *US Patent* 53866025.

M.M. Harpold and P.F. Brust. (1995) Assay methods and compositions useful for measuring the transduction of an intracellular signal. *US Patent* 5401629.

S.B. Ellis, M.E. Williams, A. Schwartz, R. Brenner, and M.M. Harpold. (1995) Calcium channel alpha 2 subunit DNAs and cells expressing them. *US Patent* 5407820.

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M.J. Hagenson, K.A. Barr, D.W. Stroman, F.H. Gaertner, M.M. Harpold, and R.D. Klein. (1997) *Pichia pastoris* linear plasmids and DNA fragments thereof. *US Patent* 5665600.

M.A. Akong, M.M. Harpold, G. Velicelebi, and P. Brust. (1997) Automated analysis equipment and assay method for detecting cell surface protein and/or cytoplasmic receptor function using same. *US Patent* 5670113.

S.B. Ellis, M.E. Williams, M.M. Harpold, A. Schwartz, and R. Brenner. (1997) Probes and assays for calcium channel alpha 2 subunit-encoding nucleic acids. *US Patent* 5686241.

S.B. Ellis, M.E. Williams, M.M. Harpold, J. Sartor, and R. Brenner. (1998) Calcium channel alpha 2 subunit polypeptides. *US Patent* 5710250.

S.D. Jay, S.B. Ellis, M.M. Harpold, and K.P. Campbell. (1998) Recombinant production of mammalian calcium channel gamma subunits. *US Patent* 5726035.

M.M. Harpold, S.B. Ellis, M.E. Williams, D.H. Feldman, A.F. McCue, and R. Brenner. (1998) Human calcium channel compositions and methods. *US Patent* 5792846.

K.J. Elliott, S.B. Ellis, and M.M. Harpold. (1998) DNA and mRNA encoding human neuronal nicotinic acetylcholine receptor alpha-2 subunit and cells transformed with same. *US Patent* 5801232.

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M.M. Harpold, S.B. Ellis, M.E. Williams, D.H. Feldman, A.F. McCue, and R. Brenner. (1998) Human calcium channel alpha₁, alpha₂, and beta subunits and assays using them. *US Patent* 5846757.

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